

PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Moris M. AMON

Appn. No.: 09/732,123

Attorney Docket No.: 10242

FA

Confirmation No.: 9609

Group Art Unit: 1771

Filed: December 7, 2000

Examiner: Hai VO

TC 1700

For: PLASMA-TREATED POROUS FILM

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Shifang Luo, hereby declare and state:

THAT I am a citizen of the United States;

THAT I have received a Ph.D in Chemistry from the University of Illinois-Urbana
Champaign; and

THAT I have been employed by ExxonMobil since June 1, 1995, where I hold a position
as Technologist, with responsibility for developing flexible packaging films, with special emphasis
on plasma treatment.

I declare further that I am aware of and have read U.S. Serial No. 09/732,123, and I am
aware of and have read the final Office Action mailed June 24, 2003, in the above-identified
application, as well as the cited prior art, including U.S. Patent No. 6,022,902 to Koontz and U.S.
Patent No. 5,340,672 to Kubota, et al. ("Kubota").

There are different ways, and different variables within the different ways, of plasma-
treating a film layer. Indeed, there are many variables to plasma treatment, such as film line
speed, power, gas flow rates, plasma pressure, etc.

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Contrary to the statement at lines 5-8 of Section No. 8 (page 3) of the final Action, all of the cited references do not disclose the same plasma discharge treatment. As an example, Koontz uses so-called Remote Plasma technology, wherein the film surface is never directly contacted by the plasma. In the invention of the present application, on the other hand, the film travels through the plasma zone and contacts the plasma directly (I refer to page 1, lines 28+, for example).

Due to the many different ways, and different variables within the different ways, of plasma-treating a film, not all plasma-treated film layers will meet the requirements of the present claims. As an example, I refer the Examiner to the comparison below between the data presented at Table 3, column 21, of Koontz, and the data in the present specification, including Tables 1-3 at pages 11-12.

Koontz's Table 3 displays water-absorbed data for films exposed from periods of time ranging from three seconds to ten minutes. When the water-absorbed data in Koontz's Table 3 is correlated with its corresponding pore accessibility value, it is clear that not only some, but actually a majority of the film samples in this part of Koonitz's Example 1 fail to achieve the presently claimed pore accessibility for water of at least 0.60. Furthermore, as shown in the last table below, when a "time exposed" value is calculated for example films of the present application from the disclosure at page 9, lines 22-27, Table 1 (page 11) and Table 3 (page 12), it is clear that when the exposure time is the same, films produced according to the present application are more hydrophilic (have improved pore accessibility values) than the example films from Koontz.

Table 3, Columns 1 & 2 of Koontz		
Time Exposed (sec)	Water Absorbed (wt% of Disc. Wt.)	Pore accessibility (a)
5	1.9	0.03
10	8.4	0.13
15	10.4	0.16
20	11.6	0.18
30	14	0.21
40	18	0.27
50	20.1	0.31
70	23.2	0.35

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50	24.3	0.37
120	32.9	0.50
180	47	0.71
300	55.7	0.83
600	65.9	1.00
700	63.2	0.99

(a) pore accessibility = water absorbed/maximum water absorbed, wherein maximum water absorbed for POREX, fine, 10-20 microns equals 65.9%.

Table 3, Column 3d4 of Koontz		
Time Exposed (sec)	Water Absorbed (wt% of Disc Wt)	Pore accessibility (a)
3	5.2	0.06
5	6.7	0.08
10	12.1	0.13
10	12.7	0.15
15	18.5	0.23
20	18.9	0.23
30	34	0.41
40	41.8	0.50
60	48	0.58
90	64.8	0.78
120	68	0.82
150	74.3	0.90
180	75	0.90
210	79.3	0.98
240	82.9	1.00

(a) pore accessibility = water absorbed/maximum water absorbed, wherein maximum water absorbed for POREX, medium, 49-90 microns equals 82.9%.

Table 3, column 5d6 of Koontz		
Time Exposed (sec)	Water Absorbed (wt% of Disc Wt)	Pore accessibility (a)
2	4.6	0.09
4	14	0.26
6	17.3	0.32
10	25.8	0.48
15	36.5	0.67
15	36.5	0.67
22	47.3	0.87
40	53.4	0.99
60	54.1	1.00
90	52.6	0.97

(a) pore accessibility = water absorbed/maximum water absorbed, wherein maximum water absorbed for POREX, coarse, 250 micron equals 54.1%.

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Table 3, Patent Application 09/732,123		
Plasma Condition	Time Exposed (sec)	Part Recyclability
6 rpm, 50W	12.5	0.81
12 rpm, 50W	6.25	1.00

I declare still further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: August 25, 2003



Shifang Luo

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Aug 25 2003
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